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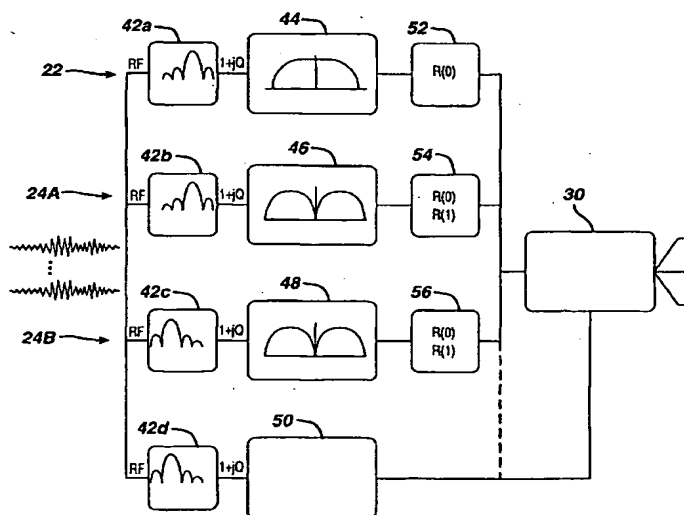
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[Continued on next page]

(54) Title: **ULTRASONIC IMAGING OF PERFUSION AND BLOOD FLOW WITH HARMONIC CONTRAST AGENTS**



(57) Abstract: An ultrasonic diagnostic imaging method and system produce diagnostic contrast images depicting both tissue perfusion and flow velocity in larger vessels by utilizing both linear and nonlinear imaging techniques. A sequence of echoes from differently modulated transmit pulses is received and processed in different ways to detect nonlinear signals from microbubble-perfused tissue and Doppler blood flow in larger vessels. The Doppler flow signals may be either linear or nonlinear or a mixture of both. A decision circuit classifies the detected signals for display pixels in a perfusion and/or flow and/or tissue image. Separate perfusion and flow images can be simultaneously displayed or an image of both perfusion and flow can be displayed.

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